CAD4BIO

COMPUTER-AIDED DESIGN FOR SYNTHETIC BIOLOGY

HIGH-THROUGHPUT
GENOMIC DESIGN SOFTWARE
FOR MOLECULAR CLONING

Empower your genomic engineering with CAD4Bio software

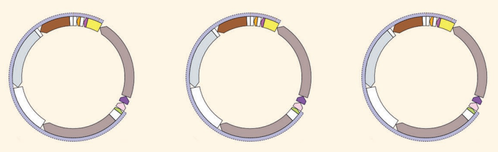
CAD4Bio software facilitates *in silico* genomic construct design to optimize expression systems for the production of proteins. It also takes part in the early stages of the high-throughput optimization process for bioproduction strains, from the genomic design to the construct realization. CAD4Bio is an innovative and complete support for biotech laboratories engaged in this process.

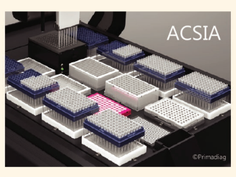
CAD4Bio assists you throughout the cloning steps and whatever your cloning strategy. The software supports you in high-throughput processes thanks to:

- The integrated molecular cloning methods appropriate for bench working and high-throughput screening
- The optimized set of primers and the cloning protocol generated for bench working or for liquid handling robots

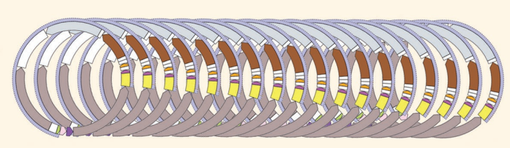
CONSTRUCT DESIGN
Design simple and combinatorial constructs

LAB BENCH
Cloning protocols visible at the lab thanks to the tablet application





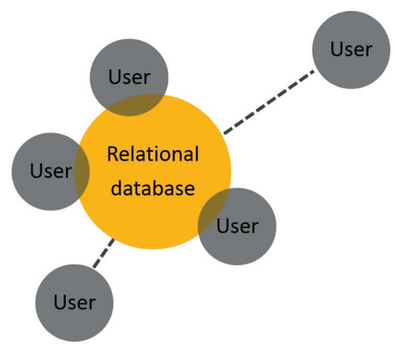
AUTOMATED PLATFORM
Cloning protocols directly interpreted by liquid handling robots



The integrated database makes your work collaborative and traceable

CAD4Bio integrates a database including all the elements such as plasmids, loci, and primers required to design and realize your constructs. Integrate your previous constructs in the database to reuse it as templates for new ones and maintain electronic strain libraries. The database gives a structure to your work and makes your project collaborative thanks to:

- Distributed access
- Automatic saving
- Data management

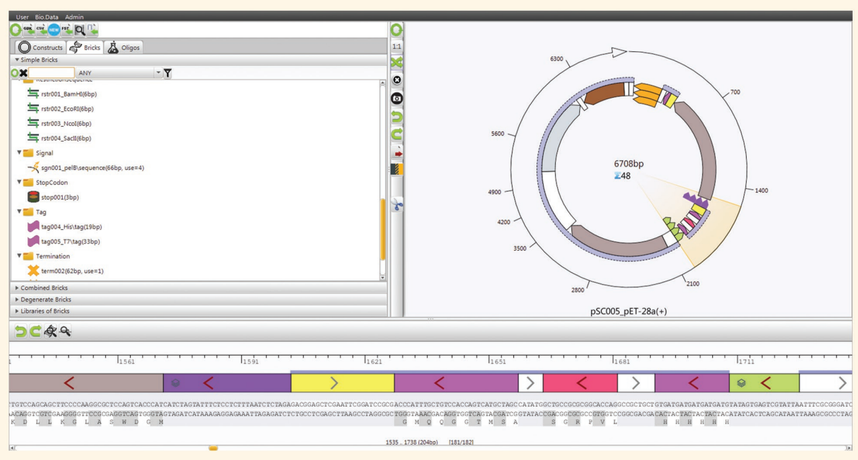


A smooth and seamless workflow for greater efficiency

The workflow of CAD4Bio software is smooth and seamless to create a continuum from the construct design to their realization. The production of molecules of interest is thus sped up!

The workflow follows four main steps:

- Design a large number of variants in just a few clicks
- Automatically compute and optimize the cloning plan for the cloning strategy you chose
- Generate a detailed protocol for performing all the combinatorial constructs
- Retrieve the brick sequence of your combinatorial clones from the DNA sequencing results



CAD4Bio's workspace simultaneoulsy displays the database of all required DNA elements, plus a synchronized view of the construct map and DNA sequence.

DESIGN THE CONSTRUCTS → **GENERATE THE CLONING PLAN** → **CHARACTERIZE POSITIVE CLONES** → **SHARE YOUR WORK**

Great benefits for high-throughput screening

USER-FRIENDLY
Focus on the design, not on the software, with the intuitive graphical interface for drag and drop construction.

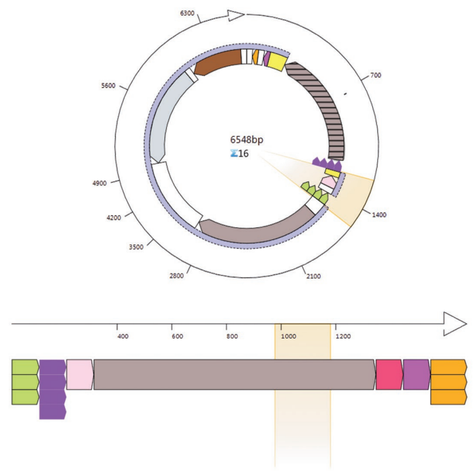
COLLABORATIVE
Share your bricks, constructs, and primers with your colleagues conveniently and easily.

COMPATIBLE
Generate a cloning plan to be executed directly by liquid handling robots for high-throughput cloning.

AUTOMATED
Keep your work backed up and organized with autosave and version management for high level traceability.

VERSATILE
Work with a wide variety of cloning strategies - restriction/ligation, Gibson assembly, and more - keeping the same software.

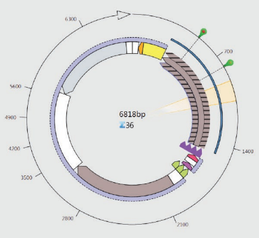
FAST RETURN ON INVESTMENT
Save time and money by letting the software determine the most efficient way to perform new combinatorial constructs and optimize your primer purchases.



Work with a plasmid or a linear DNA fragment, depending on your cloning strategy.

CAD4Bio supports your migration from lab bench to the robots

CAD4Bio software



CAD4Bio software supports your development process from lab bench cloning to high-throughput screening thanks to:

- The integrated cloning methods appropriate for lab bench (restriction-ligation) and high-throughput screening (overlap-directed DNA assembly methods)
- The database, which remains available when the chosen cloning method changes

CAD4Bio team

Thanks to our expertise and experience in molecular biology, bioinformatics, and robotics, we support your team by providing:

- Trainings, scientific, and technical recommendations
- Adaptations to the particuar features of your lab